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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,634	05/08/2001	Alan R. Reinberg	MI22-1704	4400

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EXAMINER

WILLIAMS, ALEXANDER O

ART UNIT PAPER NUMBER

2826

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/851,634

Applicant(s)

REINBERG

Examiner

Alexander O Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 64-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 64-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 12, 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Serial Number: 09/851634    Attorney's Docket #: MI22-1704  
Filing Date: 5/8/2001;

Applicant: Reinberg

Examiner: Alexander Williams

This application is a divisional application of U.S. Patent Application Serial # 09/561794 filed on May 1, 2000 which is a divisional of U.S. Patent Application Serial # 09/444280 filed on November 19, 1999.

Applicant's Pre-Amendment in Paper # 10, filed 5/8/01, has been acknowledged.

Claims 1-63 have canceled.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

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The disclosure is objected to because of the following informalities: The related application information should be updated.

Appropriate correction is required.

Claims 65 to 67 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 65 to 67 recites the limitation "The method" in the claims. There is insufficient antecedent basis for this limitation in the claim. This should probably be "The integrated circuit."

Any of claims 65 to 67 not specifically addressed above are rejected as being dependent on one or more of the claims which have been specifically objected to above.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 64, 66 and 67 are rejected under 35 U.S.C. § 102(b) as being anticipated by Garcia (U.S. Patent # 4,622,574).

In claim 64, Garcia (figures 1 to 3) specifically figure 1 show an intermediate construction of an integrated circuit **10** comprising: a semiconductor substrate **30**; a raised mandril **t** over the substrate, the raised mandril being raised out from the substrate and having at least one edge substantially perpendicular **((along 12))** to the substrate and at least one beveled edge **(along 17)**; and a layer of structural material **18-22,18'-22',45** forming an edge defined feature on the at least one perpendicular edge.

In claim 66, Garcia's raised mandril comprises four edges, including two edges **(along 12 front and back)** substantially perpendicular to the substrate and two beveled edges **16,17**.

In claim 67, Garcia's structural material is conductive **Al**.

Claims 64, 66 and 67 are rejected under 35 U.S.C. § 102(e) as being anticipated by Akram (U.S. Patent # 6,040,618).

In claim 64, Akram (figures 1 to 21) specifically figure 9 show an intermediate construction of an integrated circuit comprising: a semiconductor substrate **102**; a raised mandril **108** over the substrate, the raised mandril being raised out from the substrate and having at least one edge substantially perpendicular to the substrate and at least one beveled edge; and a layer of structural material **114,118,120,122,116,128** forming an edge defined feature on the at least one perpendicular edge.

In claim 66, Akram's raised mandril comprises four edges, including two edges substantially perpendicular to the substrate and two beveled edges.

In claim 67, Akram's structural material is conductive.

Claim 65 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Garcia (U.S. Patent # 4,622,574) in view of Dilorio et al. (U.S. Patent # 5,962,866).

Garcia show the features of the claimed invention as detailed above, but fail to explicitly show bevel is less than or equal to about 45 degrees. However, Garcia's doe discloses the bevel is less than or equal to about 45 degrees (**along 32,33**),

Dilorio et al. Is cited for showing a microbridge superconductor device utilizing stepped junctions. Specifically, Dilorio et al. (figures 1 to 6) specifically figures 2 and 3F a substrate **26**; a raised mandril **28** over the substrate, the raised mandril being raised out from the substrate and having at least one edge substantially perpendicular to the substrate and at least one beveled edge, wherein the bevel **A** is less than or equal to about 45 degrees; and a layer of structural material **22,30** forming an edge defined feature on the at least one perpendicular for the purpose of using in numerous applications that do not require cooling to near absolute zero.

It would have been obvious to one of ordinary skill in the art to provide the bevel having the angle in the range as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPTO 233.

Therefore, it would have been obvious to one of ordinary skill in the art to use Dilorio et al.'s raised mandril of less than or equal to about 45 degrees over the substrate to modify Garcia's raised mandril over the substrate for the purpose of using in numerous applications that do not require cooling to near absolute zero.

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Claim 65 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Akram (U.S. Patent # 6,040,618) in view of Dilorio et al. (U.S. Patent # 5,962,866).

Akram show the features of the claimed invention as detailed above, but fail to explicitly show bevel is less than or equal to about 45 degrees. However, Akram does disclose the bevel is at an angle,

Dilorio et al. Is cited for showing a microbridge superconductor device utilizing stepped junctions. Specifically, Dilorio et al. (figures 1 to 6) specifically figures 2 and 3F a substrate **26**; a raised mandril **28** over the substrate, the raised mandril being raised out from the substrate and having at least one edge substantially perpendicular to the substrate and at least one beveled edge, wherein the bevel **A** is less than or equal to about 45 degrees; and a layer of structural material **22,30** forming an edge defined feature on the at least one perpendicular for the purpose of using in numerous applications that do not require cooling to near absolute zero.

It would have been obvious to one of ordinary skill in the art to provide the bevel having the angle in the range as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPTO 233.

Therefore, it would have been obvious to one of ordinary skill in the art to use Dilorio et al.'s raised mandril of less than or equal to about 45 degrees over the substrate to modify Akram's raised mandril over the substrate for the purpose of using in numerous applications that do not require cooling to near absolute zero.

Field of Search	Date
U.S. Class and subclass: 257/486,586,623,618,622,329,403,751-764 438/669,412,459,713	3/9/03
Other Documentation: foreign patents and literature in 257/486,586,623,618,622,329,403,751-764 438/669,412,459,713	3/9/03
Electronic data base(s): U.S. Patents EAST	3/9/03

***Papers related to this application may be submitted to Technology Center 2800 by facsimile transmission. Papers should be faxed to Technology Center 2800 via the Technology Center 2800 Fax center located in Crystal Plaza 4-5B15. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center 2800 Fax Center number is (703) 308-7722 or 24. Only Papers related to Technology Center 2800 APPLICATIONS SHOULD BE FAXED to the GROUP 2800 FAX CENTER.***

Any inquiry concerning this communication or any earlier communication from the examiner should be directed to ***Examiner Alexander Williams*** whose telephone number is ***(703) 308-4863***.

Any inquiry of a general nature or relating to the status of this application should be directed to the ***Technology Center 2800 receptionist*** whose telephone number is ***(703) 308-0956***.

3/9/03



Primary Examiner  
Alexander O. Williams